Claims

1. A translucent screen comprising a sheet element (30) with a first surface (31) and a second surface (32) substantially parallel with the first surface, wherein the first surface comprises a number of lens facets (33) that combine to form a lens system for paralleling diverging light beams (L) that enter into the sheet element from a surface, wherein the sheet element comprises a matrix material comprising a refractive agent in the form of refractive particles, where the refractive index for the refractive particles deviates from the refractive index for the material in which the refractive particles are located, and wherein the matrix material forms the first as well as the second surface, **characterised in** that

the lens facets (33) contain the refractive particles in a concentration that exceeds a concentration of refractive particles in that part of the sheet element that is located most proximate to the second surface.

2. A translucent screen according to claim 1, **characterised in** that that part of the sheet element that is outside the lens facets contains refractive particles in an even layer in that part of the sheet element that is most proximate to the lens facets, wherein said layer has a thickness that is no more than 50 percent of the total screen thickness, preferably no more than 20 percent of the total screen thickness, and most preferably no more than 10 percent of the total screen thickness, and wherein that part of the sheet element that is most proximate to the second surface contains substantially no refractive particles.

3. A translucent screen according to claim 1, **characterised in** that the lens facets contain refractive particles; and that that part of the sheet element tha

ticles; and that that part of the sheet element that is outside the lens facets contains substantially no refractive particles.

4. A translucent screen according to any one of claims 1-3, **characterised** in that the refractive particles are evenly distributed in each lens facet.

5. A translucent screen according to any one of claims 1-3, **characterised** in that the refractive particles are distributed in the lens facets with a highest concentration corresponding to the tips of the lens facets.

6. A translucent screen comprising a sheet element (30) with a first surface (31) and a second surface (32) substantially parallel with the first surface, wherein the first surface comprises a number of lens facets (33) that combine to form a lens system for paralleling diverging light beams (L) that enter into the sheet element from a surface; wherein the sheet element comprises first and second materials, the first material being a matrix material, wherein the first material is located substantially corresponding to the lens facets, and wherein the second material forms a coherent layer parallel with the plane of the lens facets, **characterised in** that

the lens facets contain refractive particles wherein the refractive index for the refractive particles deviates from the refractive index for the material in which the refractive particles are located.

7. A translucent screen according to claim 6, **characterised in** that the refractive particles are evenly distributed in each lens facet.

8. A translucent screen according to claim 6, **characterised in** that the refractive particles are distributed in the lens facets with a highest concentration corresponding to the tips of the lens facets.

9. A translucent screen according to any one of claims 6 through 8, **characterised in** that the second material constitutes an extruded plate.

10. A translucent screen according to claim 9, **characterised in** that the extruded plate is coated with or comprises one or more materials from the group consisting of light-diffusing agents, light-absorbing agents or contrast-increasing agents.

11. A translucent screen according to any one of the preceding claims, **characterised in** that the screen comprises a second sheet element arranged parallel with the screen, and wherein the second sheet element preferably comprises refractive particles.

12. A method of manufacturing a translucent screen (40a,40c) of the type that comprises a sheet element with a first surface and a second surface substantially parallel with the first surface, wherein the first surface comprises a number of lens facets (41a,41c) that combine to form a lens system for paralleling diverging light beams (L) that enter into the sheet element, and wherein the method is **characterised in** comprising the steps of:

- providing a substantially closed mould with a negative relief of a lens system;
- positioning the mould substantially horizontally;
- providing a translucent, fluid and curable matrix material, with which is admixed a light-diffusing, granular agent with a refractive index different

from the matrix material and with a density that exceeds that of the matrix material;

- charging the mould with the matrix material admixed with the light-diffusing granular agent;
- allowing the light-diffusing agent to sediment towards the negative relief of the mould, such that the concentration of the light-diffusing granular agent is higher in that part of the matrix material that is located most proximate to the negative relief of the mould;
- curing the matrix material; and
- removing the cured screen from the mould.

13. A method of manufacturing a translucent screen (40b) of the type that comprises a sheet element with a first surface and a second surface substantially parallel with the first surface, wherein the first surface comprises a number of lens facets (41b) that combine to form a lens system for paralleling diverging light beams that enter into the sheet element; and wherein the method is characterised in comprising the steps of:

- providing a substantially closable mould with a negative relief of a lens system;
- positioning the mould substantially horizontally;
- providing a translucent, fluid and curable first matrix material, with which is admixed a light-diffusing granular agent with a refractive index different from the matrix material and with a density that exceeds that of the matrix material;
- distributing the matrix material across the negative relief such that it is limited essentially to the indentations of the relief;
- closing the mould;
- charging the mould with a second material that can be different from or identical with the first matrix

material and wherein the second material can be admixed with a light-diffusing granular agent;

- allowing the light-diffusing granular agent to sediment towards the negative relief of the mould, such that the concentration of the light-diffusing granular agent is higher in that part of the first matrix material that is located most proximate to the negative relief of the mould;
- curing the first matrix material; and
- removing the cured screen from the mould.

14. A method of manufacturing a translucent screen of the type that comprises a sheet element with a first surface and a second surface substantially parallel with the first surface, wherein the first surface comprises a number of lens facets (51a,51b,51c) that combine to form a lens system for paralleling diverging light beams that enter into the sheet element, and wherein the method is characterised in comprising the steps of:

- providing a substantially closed mould with a negative relief of a lens system;
- positioning the mould with the negative relief facing upwards, preferably substantially horizontally;
- providing a translucent, fluid and curable matrix material, with which is admixed a light-diffusing granular agent with a refractive index different from the matrix material that exceeds that of the matrix material;
- distributing the matrix material admixed with the light-diffusing granular material across the negative relief of the mould, preferably only on a portion thereof;
- providing a sheet element (50a,50b,50c) with a first surface and a second surface substantially parallel with the first surface;

- positioning the sheet element with the first surface towards the negative relief of the mould on which the matrix material admixed with the light-diffusing granular agent is distributed;
- pressing the sheet element downwards against the negative relief of the mould such that the matrix material admixed with the light-diffusing granular agent is distributed across the negative relief of the mould, preferably such that the sheet element essentially abuts on the negative relief throughout the entire, first surface of the sheet element;
- curing the matrix material; and
- removing the cured screen from the mould.

15. A method of manufacturing a translucent screen according to claim 14, **characterised** in that the sheet element is coated with or comprises one or more materials (52c) from the group consisting of light-diffusing agents, light-absorbing agents or contrast-increasing agents.

16. A method of manufacturing a translucent screen according to claim 15, **characterised** in that the sheet element contains a light-diffusing agent.